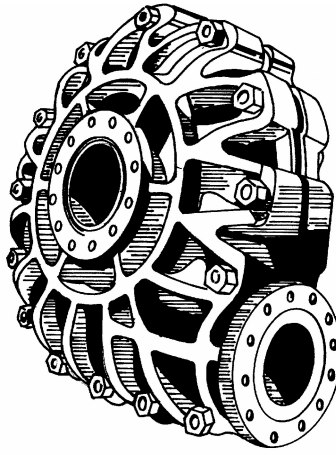


PUMPS



A. Original Equipment Manufacturer (OEM)

The following is a listing of OEMs for pumps used in the mining environment. There are a variety of pumps available, depending on the type of medium to be pumped and where the pump is to be used. Local dealers should be contacted for specific needs and details.

Manufacturer	Noise Controls
Eimco Process Equipment Company	
Envirotech Pump Systems	
GIW Industries, Inc.	
Goodwin Pumps	
ITT A-C Pumps	
Robbins & Myers, Inc.	
Versa-Matic Pump Company	

"X" indicates product availability.

Current information from the manufacturers indicates there are no noise controls incorporated in the pumps design. Many of the companies are precisely balancing the internal moving parts to reduce vibration. The pumps are powered by either electric motors, hydraulics, or air pressure. These power sources and/or pumps can sometimes be located inside buildings or enclosures to help reduce the overall noise. This is dependent upon the size and location of the equipment. Local dealers can generally advise customers on their particular application.

B. Retrofit Noise Controls

Manufacturer	Resilient or Rubber Liner
Goodyear	X
Linatex	X
Trellex	X

"X" indicates product availability.

This section is for pumps that are without noise controls or are not located inside an enclosure. The effectiveness of noise controls is dependent upon the quality of both the acoustic materials and installation techniques.

If a retrofit kit is unavailable, the materials may be purchased in bulk using Appendix C as a guide.

The majority of noise associated with pumps is produced by their motors/engines and the high-speed circulating internal parts.

1. Acoustical Enclosure Around the Equipment - The enclosure can be a prefabricated metal enclosure or a site-built enclosure using common building materials or a dense-loaded, vinyl-hanging, curtain-type arrangement. The type of enclosure will generally be determined by the equipment's dimensions, location, cost, and maintenance requirements. Another consideration is whether the enclosure will be permanent or temporary.
2. Acoustical Enclosure for Operators in the Area - Operator enclosures can generally be purchased prefabricated with windows, doors, heat, air-conditioning, and lighting. Another alternative would be to construct an enclosure on-site using common building materials.

A list of suppliers appears in the Appendix.

C. Alternative Technology

None identified at this time.